

UNIV 100 Library Week Pretest Posttest Results, Fall 2007

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Overview of University 100

The University 100 freshman seminar is an elective, letter-graded course offering three semester-units of general education credit, which has been offered at CSUN since 1999. The goal of University 100 is to increase the persistence rates of students from traditionally at-risk populations by enabling them to develop a plan for personal, academic, and career success through self-evaluation, application of specific techniques, discussions, field experiences, and traditional classroom exercises. Lessons include effective study strategies, critical and creative thinking skills, university-level oral and written expression, establishing short-term and long-term goals, time management, and information competence. The enrollment limit is 25 students per section; currently about 16% of first-time freshmen enroll in UNIV 100. While persistence rates from first to second year for freshman students enrolled in University 100 is only slightly higher than the rate for all freshmen (77.2% versus 76.2%)¹, one should consider this a success. Indeed, considering that University 100 students are traditionally recruited from students designated as needing remedial help in English and math, this data appears to show that at least students considered at risk for dropping out did at least as well as students not in that predicament.

Library Involvement in University 100

Since 1999, CSUN librarians have been engaged in an information competency instruction and assessment program with freshman seminar students. Library faculty provide a week of hands-on library instruction covering the basics of information competency, including understanding the assignment, topic selection, keyword brainstorming, Boolean logic, resource types, database selection, search execution, critical evaluation, citation style, and plagiarism. Students are then required to do a [library research assignment](#)² by compiling a short annotated bibliography on a topic using MLA style, which is graded by the course instructor. Library week assessment consists of a Web-based multiple-choice pretest and posttest of concepts and skills based on the Association of College and Research Libraries' [Information Literacy Competency Standards for Higher Education](#)³. While the format of the tests has varied over the years from paper and pencil to using Web-based testing software (QuizMaker™ from the University of Hawaii Office of Technology Transfer), since fall 2002, we have been using Flashlight Online™, the Web-based survey software from the Center for Teaching, Learning, and Technology at Washington State University.

¹ Huber, Bettina J. [One-Year Continuation Among First Time Freshmen Entering in Fall 2005 and Participating in First Year Experience Programs](#). CSUN: Office of Institutional Research, November 2006. Accessed 11 January 2008
http://irqry.csun.edu:8080/csun/special_reports/U100ContinReport.pdf.

² http://library.csun.edu/Research_Assistance/univ100.html

³ <http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.cfm>

Methodology

During the fall 2007 semester, there were 27 sections of University 100 offered to 582 students. The 27 UNIV 100 instructors were asked to have their students complete the pretest prior to library week and do the posttest afterwards, preferably, after their annotated bibliography assignment was turned in. As an incentive to complete the surveys, students were given participation credit. The surveys asked students to provide their names and the names of their instructors, which would be provided to the instructor in order to assign credit. However, individual student results were not reported to the instructors since the purpose of the pretest posttest was to aggregate freshman student information competence and assess our UNIV 100 library instruction program. A total of 401 pretest and 307 posttest surveys were returned, for a response rate of 69% and 53% respectively. The discrepancy between the total numbers of responses can be explained by the fact that only 21 out of the 27 instructors participated in the pretest and 19 out of the 21 did so for the posttest. Past response rates were much higher; this lack of participation may be due to a change in how the URL for the survey is distributed to the faculty to give to their students. Efforts are underway to improve the return rate next fall.

Demographic Results

Students were asked three basic questions related to their experience with library instruction and a self-reporting of their skills. Questions #13 and #14 asked if students had previous library instruction. In Question #13, more than half indicated that they did not have formal instruction on finding information in a library or via the Internet. As these are exclusively freshman students, it is discouraging to note that most did not have this type of instruction in high school. However, this information can be useful to show where students are lacking basic research skills as entering freshmen. Question #14 asked students if they had instruction since entering CSUN as “library week” takes place in the 8th week of classes and these students may have had library instruction as part of another freshman level course. The majority (76.8%) did not.

Q13. Before coming to CSUN, did you have formal instruction (lecture, presentation, tour, self-paced tutorial) on how to find information using a library or the Internet?

	Pretest		Posttest	
	Frequency	Percent	Frequency	Percent
Yes	181	45.6	126	41.7
No	216	54.4	176	58.3
Total	397	100.0	302	100.0

Q14. Since entering CSUN, have you had formal instruction (lecture, presentation, tour) on how to find information using the CSUN Library?

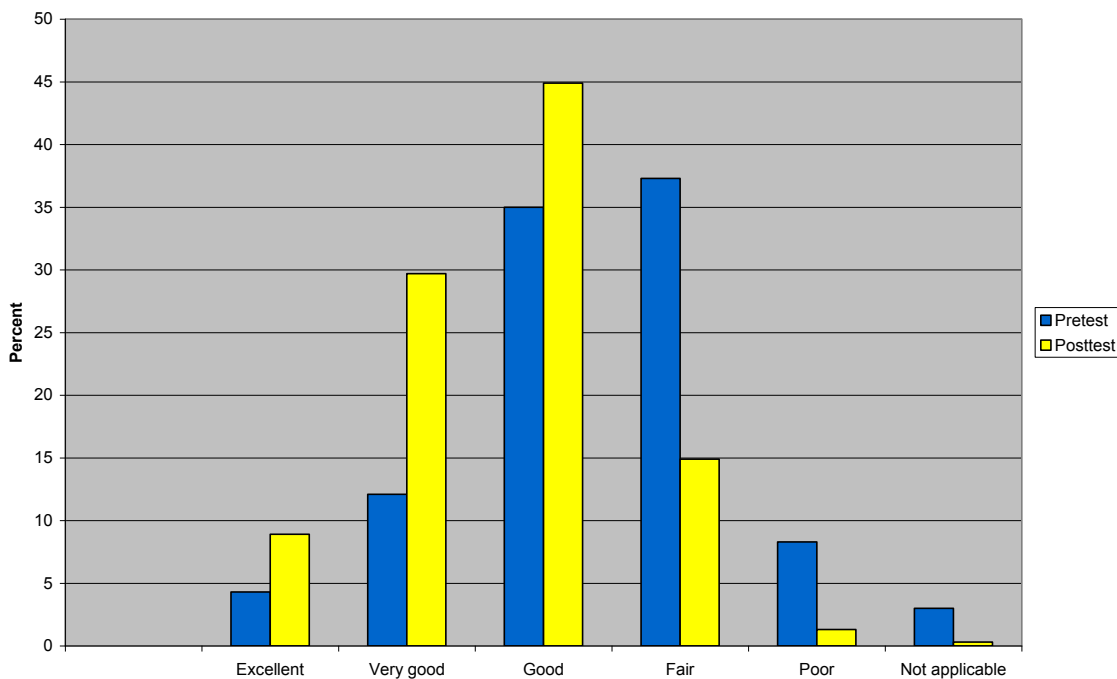
	Pretest	
	Frequency	Percent
Yes	92	23.2
No	305	76.8
Total	397	100.0

Question #15 asked for a self-reporting of library/Internet research skills. While the validity of self-ratings of skills can be challenged, it is interesting to note how consistently the percent change went up for “excellent,” “very good,” and “good,” and down for “fair” and “poor” from pretest to posttest. Therefore, one could conclude that “library week” at least had a positive impact on students’ perceptions of their skills. Furthermore, actual skills went up as evidenced by the percentage of correct responses from pretest to posttest as demonstrated in the next section.

Q15. How would you rate your library research skills in terms of being able to locate information for class assignments?

	Pretest		Posttest		% Change
	Frequency	Percent	Frequency	Percent	
Excellent	17	4.3	27	8.9	4.6
Very good	48	12.1	90	29.7	17.6
Good	139	35.0	136	44.9	9.9
Fair	148	37.3	45	14.9	(22.4)
Poor	33	8.3	4	1.3	(7.0)
Not applicable	12	3.0	1	.3	(2.7)
Total	397	100.0	303	100.0	

Self-Rating of Library Skills



Results of the Information Competency Tests

The following tables provide the text of the test questions, possible responses, and the frequency and percent of responses. Correct answers for the test questions are highlighted in yellow, as is the percent change between the pretest and posttest. Percentages are based on the total frequency of responses and do not include answers that were left blank (system missing).

Question #1 measures the ability to identify key concepts and terms that describe the information need, which is one of the outcomes for Standard number one of the ACRL Information Literacy and Competency Standards for Higher Education. Less than half of the students answered correctly and the percent change between the pretest and posttest was minimal. Despite having had a week of library instruction, more than half of the students remain confused about choosing the appropriate keywords from a thesis statement, which represents the heart of any successful literature search.

Q1. Choose the best set of keywords that you would use to search for recent research on the possible impact of global warming on weather patterns.

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
global warming, impact	171	42.9	132	43.0	
research, weather patterns	10	2.5	4	1.3	
global warming, weather	189	47.4	152	49.5	2.1
weather patterns, impact	20	5.0	14	4.6	
Don't know	9	2.3	5	1.6	
Total	399	100.0	307	100.0	

Question #2 measures the ability to identify different types and formats of potential information sources, which is another one of the outcomes for Standard number one of the ACRL standards. Despite the majority getting the answer right, the percentage went down from the pretest to the posttest. However, the percent change was still minimal.

Q2. Of the following choices, the fastest, most accurate source of information on an event happening TODAY is:

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Book	3	.8	2	.7	
Today's newspaper	117	29.3	100	32.7	
This week's Time Magazine	2	.5	1	.3	
CNN.com or another well-known news source on the Internet	276	69.2	201	65.7	(3.5)
Don't know	1	.3	2	.7	
Total	399	100.0	306	100.0	

Question #3 also measured one of the outcomes of Standard number one of the ACRL standards, which is to identify a variety of types and formats of potential sources for information. However, while the percent of correct responses almost doubled, clearly, the majority did not understand the most important feature of a scholarly journal—that it is peer reviewed. A third of the respondents thought the fact that authors cite their sources was more important, which probably reflects what is emphasized during the library instruction session and/or by their instructors in order to give undergraduate students a concrete method for determining if an article is a popular or scholarly treatment. Another third took the easy way out and checked “all of the above,” clearly ignoring what should have been the more obvious wrong answers: “the word *journal* is in the title,” “it has a volume number,” and it “has advertisements for books.”

Q3. Which of the following elements would BEST help you determine if a publication is a scholarly journal?

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
“Journal” in title of publication	20	5.1	13	4.2	
Articles cite their sources	117	29.5	97	31.7	
Has a volume number	22	5.6	13	4.2	
Peer reviewed	38	9.6	53	17.3	7.7
Has ads for books	2	.5	0	0	
All of the above	116	29.3	116	37.9	
Don't know	81	20.5	14	4.6	
Total	396	100.0	306	100.0	

Questions #4 and #5 also relate to Standard number one of the ACRL standards, which is to identify a variety of types and formats of potential sources for information. While less than half recognized a journal citation, for those that did, the percentage went up 7.6% from the pretest to the posttest. On the other hand, about half recognized a book citation, which went down minimally from the pretest to the posttest. The changes in the percent of correct responses to the two questions can probably be explained by the amount of time that is spent having students work with periodical databases versus the book catalog during the library instruction session, which means that their exposure to periodical citations would have been greater.

Q4. The following citation is for what type of source?: Leung,-Doris-Y-P; Kember,-David. 2003. The relationship between approaches to learning and reflection upon practice. Educational-Psychology, 23(1): 61-71.

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Journal article	137	34.6	129	42.2	7.6
Book	63	15.9	50	16.3	
Book chapter	149	37.6	110	35.9	
Don't know	47	11.9	17	5.6	
Total	396	100.0	306	100.0	

Q5. The following citation is for what type of source?: Dembo,-Myron-H. 2002. Motivation and learning strategies for college success: A self-management approach. Mahwah, NJ: Lawrence Erlbaum Associates

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Journal article	119	29.9	105	34.3	
Book	203	51.0	151	49.3	(1.7)
Book chapter	21	5.3	26	8.5	
Don't know	55	13.8	24	7.8	
Total	398	100.0	306	100.0	

Both questions #6 and #7 measured Standard number two of the ACRL standards, which is the ability to access needed information effectively and efficiently by using various search systems to retrieve information in a variety of formats. Almost all of the respondents recognized that the library's online catalog identifies its book collection. However, while the percent change in correct responses went up 7% from the pretest to the posttest in question #7, only half understood what they would find in a periodical database despite a week of library instruction that emphasizes these vital resources. Having the "all of the above" answer receiving the other half of the responses means that the students either ignored or did not understand the meaning of "periodical" in the text of the question.

Q6. To determine if a library has the book that I need, I would search the:

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Library of Congress Subject Headings	12	3.0	5	1.6	
Books in Print	20	5.0	14	4.6	
Online Catalog	345	86.7	284	92.5	5.8
Amazon.com	4	1.0	1	.3	
Don't know	17	4.3	3	1.0	
Total	398	100.0	307	100.0	

Q7. A periodical database allows you to search for:

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Articles	175	44.1	157	51.1	7.0
Books	9	2.3	2	.7	
DVDs	1	.3	2	.7	
All of the above	176	44.3	141	45.9	
Don't know	36	9.1	5	1.6	
Total	397	100.0	307	100.0	

Question #8 also measured Standard number two of the ACRL standards, which is that the information literate student accesses needed information effectively and efficiently by constructing a search strategy using appropriate commands for the information retrieval system selected. While the majority recognized that the Boolean “and” narrows search results, an additional 9.3% got it right after library instruction.

Q8. Which of the following search strategies will retrieve the MOST SPECIFIC (FEWEST) results in an online database?

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Paris Hilton AND jail	305	77.0	265	86.3	9.3
Paris Hilton OR jail	69	17.4	35	11.4	
Don't know	22	5.6	7	2.3	
Total	396	100.0	307	100.0	

Questions #9 and #10 are based on Standard number three, which states that the information literate student critically evaluates information and its sources. A little over half got the answer right on question #9 and the majority (73.5%) got it right on question #10 on the pretest. While the percentage of correct responses went up 8.4% from the pretest to the posttest for question #9, despite a week of library instruction, only 59.3% understood the concept of bias as represented in the list of possible resources. However, the majority of students seemed to understand the criteria for evaluating Internet resources as evidenced by the percentage that got the answer to question #10 right on the pretest, as well as the additional 10.2% who got it right on the posttest.

Q9. If you had to give an informative speech on the benefits and limitations of electric-powered cars, which of the following resources should provide the MOST balanced or unbiased information?

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
American Petroleum Institute report	61	15.4	30	9.8	
Electric Car Retailers Association newsletter	111	28.1	74	24.3	
Consumer Reports magazine	201	50.9	181	59.3	8.4
Don't know	22	5.6	20	6.6	
Total	395	100.0	305	100.0	

Q10. Before citing information you found on the Internet in a research paper, which of the following is important to consider?

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Authority of the person or organization responsible for the information	17	4.3	9	2.9	
Information is up-to-date enough for research topic	23	5.8	20	6.5	
Information based on cited facts, or if it is opinion, that is made clear	40	10.1	11	3.6	
Professor allows use of Internet	16	4.0	7	2.3	
All of the above	291	73.5	257	83.7	10.2
Don't know	9	2.3	3	1.0	
Total	396	100.0	307	100.0	

Questions #11 and #12 attempt to measure Standard number five, which is that the information literate student understands the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically. Specifically, this standard relates to avoiding plagiarism and understanding citation formats. In question #11 it was heartening to see how well students seemed to understand what constituted plagiarism, specifically the necessity of citing the source when paraphrasing, but there was room for improvement as evidenced by the posttest response rate. The ability to identify correct citation formats can be measured by understanding the elements of a citation as represented in many bibliographic databases. While less than half of the respondents could recognize the elements of a typical journal article citation, on the posttest, the percentage of correct responses went up over 20%.

Q11. If you used information that you found on the Internet to write a research paper, when must you cite that source?

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
When you copy a whole paragraph	12	3.1	4	1.3	
When you summarize or write over the information in your own words	20	5.1	4	1.3	
When you copy one sentence	27	6.9	14	4.6	
All of the above	327	83.2	277	91.7	8.5
Don't know	7	1.8	3	1.0	
Total	393	100.0	302	100.0	

**Q12. Assume you found the following citation to an article in a periodical database: Increasing undergraduate student retention rates.; By: Rickinson, Barbara; Rutherford, Desmond., British Journal of Guidance & Counselling, Jun95, Vol. 23 Issue 2, p161, 12p, 5 charts, 2 diagrams
 Which of the following lists of elements would you include when you cite this article in your bibliography?**

	Pretest		Posttest		% Change in correct response
	Frequency	Percent	Frequency	Percent	
Article title, authors, date, pages	39	9.8	20	6.7	
Article title, authors, journal title, volume, date, pages	195	49.2	208	69.6	20.4
Article title, authors, volume, pages	43	10.9	18	6.0	
Article title, authors, journal title, pages, number of charts and diagrams	63	15.9	33	11.0	
Don't know	56	14.1	20	6.7	
Total	396	100.0	299	100.0	

Summary

The average percent correct response on the pretest was 56.4% and 63.2% on the posttest. In terms of specific questions and their concomitant standards, the biggest percent change was on recognizing the elements of a citation (Question #12), which was 20.4%. Second to that was the correct response to Question #10, which related to using the Internet as a source: the number of correct responses went up 10.2%. The lowest percent change was on Question #2 concerning the best source of news: the number of correct responses went down 3.5%. Overall, the average percent change between correct responses to the questions from the pretest to the posttest was 6.8%.

University 100 Pretest Posttest of Information Competence Summary					
<i>Frequency and Percentage of Correct Responses</i>					
Variable	Pretest		Posttest		% Change (+/-)
	Frequency	Percent	Frequency	Percent	
Q1: Keywords	189	47.4	152	49.5	2.1
Q2: News source	276	69.2	201	65.7	(3.5)
Q3: Scholarly journal	38	9.6	53	17.3	7.7
Q4: Journal cite	137	34.6	129	42.2	7.6
Q5: Book cite	203	51.0	151	49.3	(1.7)
Q6: Book catalog	345	86.7	284	92.5	5.8
Q7: Database	175	44.1	157	51.1	7.0
Q8: Boolean logic	305	77.0	265	86.3	9.3
Q9: Bias	201	50.9	181	59.3	8.4
Q10: Internet	291	73.5	257	83.7	10.2
Q11: Plagiarism	327	83.2	277	91.7	8.5
Q12: Citation elements	195	49.2	208	69.6	20.4
Average % Correct		56.4		63.2	6.8

Analysis and Conclusion

So, just how information competent are students enrolled in University 100 and what impact did a weeklong library instruction program have? Students performed slightly better than average on the pretest and overall scores definitely went up after library week. Therefore, a cursory view of the results can lead one to conclude that there was an impact on the students' information competency skills and that library week was successful. However, in a few cases, students continued to perform below average on important skills despite the intervention of library week, including understanding the definition of a scholarly journal (question #3), recognizing citations (questions #4 and #5), and identifying appropriate keywords (question #1). Therefore, while we should be proud of our library instruction program and its impact on information competence skills, clearly, we can and should do better in covering these skills. The continued strong performance on critically evaluating the Internet (question #10) and understanding plagiarism (question #11) perhaps should be an indicator that these skills could be de-emphasized in the library instruction component of University 100 in that clearly, students have gotten these important messages from other sources. Therefore, these data are useful for library faculty to continue their refinement of our instruction program for the freshman seminar. Furthermore, classroom faculty should be aware that students do not come to CSUN well prepared to undertake assignments requiring library research but library instruction can have a positive impact on students' skills. Pretest/posttest assessment can be a useful indicator of students' information literacy skills as well as provide librarians evidence of the effectiveness of their instructional program.

Next Steps

Further analysis of the data to correlate previous library instruction experience with test performance needs to be done in order to more accurately assess the impact of library week on specific outcomes for information competence. Further refinements of the University 100 library week curriculum and/or the assessment instrument may also be needed.